

MACROLEPIDOPTERA OF THE SCAMANDER FOREST RESERVE IN NORTH-EASTERN TASMANIA

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Abstract

Eighty one species of macrolepidoptera are recorded from a Forest Reserve in north-eastern Tasmania.

Introduction

Light trap collections of macrolepidoptera were made at two sites within the Scamander Forest Reserve in north-eastern Tasmania resulting in the determination of 81 species in 20 families. The establishment of forest reserves based on botanical criteria, also provides habitat protection for fauna. This paper catalogues for the first time part of the invertebrate fauna, the diversity of which enhances the status of this reserve.

Locality

The Scamander Forest Reserve was established in 1987 at a 210 ha site bordering the east bank of the Scamander River approximately 4 km west of the township of Scamander (Fig. 1). The reserve was established to preserve the dry coastal *Eucalyptus sieberi* forest type not reserved elsewhere (Duncan, 1985). The area is also of recreational value for fishing and boating as well as providing superb scenic views (Grid Reference, Tasmania Sheet, 1:100,000 Georges Bay FQ 025 123).

Vegetation

The dry eucalypt forest in the reserve has a history of frequent low intensity fires resulting in a sparse understorey dominated by vegetative reproducers. The dominant eucalypt is *E. sieberi* with *E. viminalis* and *E. amygdalina* present as minor species. Few understorey species are present amongst the high surface rock cover. Small patches of *Acacia dealbata* and *Casuarina littoralis* are present with *Daviesia latifolia*, *Pteridium esculentum*, *Lepidosperma* spp. and *Pultenaea gunnii* as the main ground cover species.

Methods

Two sites were used for light trap collections during the study. Each site was similar in vegetation and aspect but differed in elevation by 50 m. Standard vane/bucket 8 W light traps were placed on tree stumps and run for one to three nights in the months that trapping was done. On some occasions both sites were used on the same nights. The catches from both sites were pooled for each month and the mean totals per month recorded for the years 1986-1992.

Results

Only the macrolepidoptera, as defined by Borror *et al.* (1981), were sorted and identified. Table 1 shows the number of specimens and species collected in 30 sample months during a 62 month period.

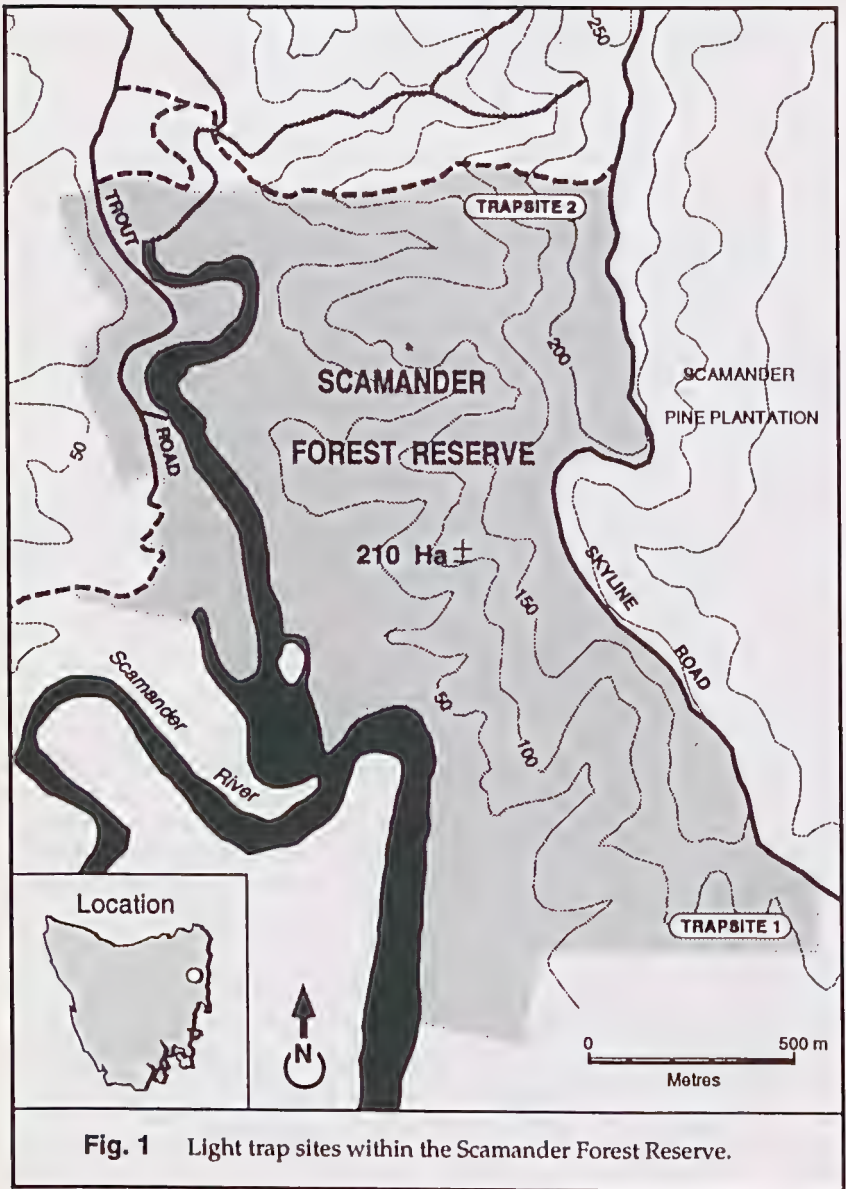


Fig. 1 Light trap sites within the Scamander Forest Reserve.

Table 1. Number of specimens and species () collected using vane light traps.

Month	1986	1987	1988	1989	1990	1991	1992	Mean
January	-	33(6)	48(6)	26(8)	34(4)	-	16(6)	31
February	-	71(8)	-	-	-	-	-	71
March	-	147(6)	122(4)	68(6)	162(9)	-	-	125
April	-	23(5)	68(6)	22(4)	-	-	-	38
May	-	-	20(4)	66(4)	-	3(1)	-	30
June	-	-	16(3)	-	-	-	-	16
July	-	-	2(2)	2(2)	-	-	-	2
August	-	-	20(4)	26(7)	-	-	-	23
September	-	-	6(3)	-	-	-	-	6
October	-	27(3)	-	-	107(5)	5(2)	-	46
November	-	-	-	-	41(7)	24(6)	-	33
December	13(5)	25(3)	-	-	30(6)	-	-	23

(Blanks are months not sampled).

Large numbers of some species and particularly members of the Family Arctiidae were present in late summer months with a peak catch of 91 specimens of *Castulo doubledayi* occurring in March 1988.

In all a total of 1261 individuals, comprised of 81 species from 20 families, were captured during 35 trap nights. Table 2 lists the species of macrolepidoptera collected during the survey.

Table 2. Macrolepidoptera species and collection months from the Scamander Forest Reserve.

Anthelidae

Anthelinae

<i>Anthela acuta</i> (Walker)	July-August
<i>Anthela connexa</i> Walker	December-January
<i>Anthela nicothoe</i> (Walker)	January-March
<i>Anthela ocellata</i> (Walker)	November-March
<i>Anthela repleta</i> (Walker)	December-January
<i>Pterolocera amplicornis</i> Walker	December-April
<i>Pterolocera</i> sp.	December-April

Arctiidae

Arctiinae

<i>Spilosoma glatignyi</i> (Le Guillou)	December-March
<i>Utetheisa pulchelloides</i> Hampson	March

Lithosiinae

<i>Castulo doubledayi</i> (Newman)	January-April
<i>Palaeosia bicosta</i> Walker	December-April

Table 2 (cont.). Macrolepidoptera species and collection months from the Scamander Forest Reserve.**Arctiidae (cont.)**

Lithosiinae

<i>Phaeophlebosia furcifera</i> Walker	August-May
<i>Scoliacma bicolora</i> Boisduval	October-March
sp.1	February
sp.2	February

Geometridae

Ennominae

<i>Boarmia lyclaria</i> (Guenée)	February-March
<i>Capusa senilis</i> Walker	February
<i>Melanodes anthracitaria</i> Guenée	November
<i>Mnesampela privata</i> (Guenée)	April-May
<i>Phelotis cognata</i> (Walker)	March
<i>Plesanemma fucata</i> (Felder & Rogenhofer)	March
<i>Paralaea beggaria</i> Guenée	April
<i>Thalaina selenaea</i> Doubleday	March-April
sp.1	January

Geometrinae

<i>Chlorocoma dichloraria</i> (Guenée)	August-April
<i>Crypsiphona oclartaria</i> (Donovan)	November
<i>Eucyclodes buprestaria</i> Guenée	March
<i>Euloxia meandraria</i> (Guenée)	February
<i>Hypobapta percomptaria</i> (Guenée)	January-April
sp.1	February
sp.2	January

Oenochrominae

<i>Monoctenia fallernaria</i> Guenée	October
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Larentiinae

<i>Chrysolarentia vicissata</i> (Guenée)	February-March
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Hepialidae

<i>Fraus latistria</i> Nielsen & Kristensen	April
<i>Oxycanus fuscomaculatus</i> Walker	April-May

Lasiocampidae

Lasiocampinae

<i>Digglesia australasiae</i> (Fabricius)	August-March
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Limacodidae

<i>Doratifera pinguis</i> (Walker)	July-February
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Lycaenidae

Polyommatinae

<i>Neolucia agricola</i> (Westwood)	December
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Theclinae

<i>Paralucia aurifer</i> (Blanchard)	November-January
<i>Pseudalmenus chlorinda</i> (Blanchard)	October-January

Table 2 (cont.). Macrolepidoptera species and collection months from the Scamander Forest Reserve.**Lymantriidae**

<i>Acyphas leucomelas</i> (Walker)	February-March
<i>Teia anartoides</i> Walker	March

Noctuidae

Agaristinae

<i>Periscepta polysticta</i> (Butler)	October-December
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Amphipyriinae

<i>Amphipyra sanguinipuncta</i> Guenée	February-March
<i>Rictonis atra</i> (Guenée)	December-May
<i>Rictonis flexirena</i> (Walker)	October-March
sp.1	March
sp.2	April

Catocalinae

<i>Pantylia sparsa</i> Guenée	January
<i>Praxis edwardsii</i> Guenée	August-February
<i>Rhapha suscitatis</i> (Walker)	October-February
sp.1	February

Cucullinae

<i>Neumichtis saliaris</i> (Guenée)	August-October
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Hadeninae

<i>Dasygaster padockina</i> Turner	August-September
" <i>Sideridis</i> " <i>costalis</i> (Walker)	February-March

Heliothinae

<i>Heliothis rubrescens</i> (Walker)	November
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Noctuinae

<i>Agrotis infusa</i> (Boisduval)	October-February
<i>Agrotis porphyricollis</i> Guenée	March-April
<i>Diarsia intermixta</i> (Guenée)	March

Nolinae

<i>Uraba lugens</i> Walker	February-March
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Notodontidae

<i>Hylaeora inclyta</i> (Walker)	April-June
<i>Sorama bicolor</i> Walker	June-February

Nymphalidae

Nymphalinae

<i>Junonia villida</i> (Fabricius)	February-March
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Satyrinae

<i>Heteronympha penelope</i> Waterhouse	January-February
<i>Oreixenica lathoniella</i> (Westwood)	February

Oecophoridae

Oecophorinae

<i>Garrha callianassa</i> (Meyrick)	December
<i>Machimia parthenopa</i> (Meyrick)	December-January

Table 2 (cont.). Macrolepidoptera species and collection months from the Scamander Forest Reserve.

Family	Species	Collection month/s
Oecophoridae (cont.)		
Xyloryctinae		
	<i>Cryptophasa albacosta</i> Lewin	January-March
Pieridae		
Pierinae		
	<i>Pieris rapae</i> (Linnaeus)	September-April
Psychidae		
Psychinae		
	<i>Clania tenuis</i> Rosenstock	April
Taleporiinae		
	<i>Narycia cataphracta</i> (Meyrick)	February
Pyralidae		
Crambinae		
	<i>Hednota</i> sp.	January
Galleriinae		
	<i>Meyriccia latro</i> (Zeller)	December-January
Pyraustinae		
	<i>Uresiphita ornithopteralis</i> (Guenée)	November
Saturniidae		
	<i>Opodiphthera helena</i> (White)	October-December
Sphingidae		
Macroglossinae		
	<i>Hippotion scrofa</i> (Boisduval)	December
Thaumetopoeidae		
Epicoma tristis Hübner		
	<i>Marane melanospila</i> (Wallengren)	December
	<i>Oenosandra boisduvalii</i> (Newman)	March-April
		March
Tortricidae		
Tortricinae		
	<i>Epiphyas postvittana</i> (Walker)	January-April
Zygaenidae		
	<i>Pollanisus viridipulverulentus</i>	January
	Guérin-Ménéville	

Discussion

The collection of 81 species of macrolepidoptera using a single trap design provides an indication of the diversity of this order of insects within a specific vegetative habitat.

The problems of assessing populations of Lepidoptera from light trap catches have been well documented. Moonlight, rain and wind may affect catch heterogeneity resulting in fluctuations of insect numbers from night to night

(Wolda 1977), whilst insect seasonality relates to climatic factors and to food availability (Frith and Frith, 1985).

In comparison to other regional moth collections using light traps the number of species captured were similar except for the geometrids of which only 18 species were collected (P.B. McQuillan *pers. comm.*). The presence of extensive *Pinus radiata* plantations bordering both light trap sites may have adversely influenced the number of species of this family captured.

The value of this coastal dry forest reserve is enhanced by the diversity of macrolepidoptera found within its vegetation community.

The presence of an isolated population of the hairstreak butterfly *Pseudalmenus chlorinda* ssp. near *zephyrus*, whose known distribution in Tasmania has declined due to habitat loss (Couchman 1962), is of significant conservation importance.

References

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